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1 October 1964

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MEMORANDUM FOR: [REDACTED] Development Branch, P&DS

THROUGH: Chief, Development Branch, P&DS *W. J. [unclear]*
1 Oct

SUBJECT: Request for Investigation of Film Gate Fluids and Film Properties

1. Your memorandum of 22 September has been received and studied by members of the Exploratory Development Laboratory Branch. Because of the potentially enormous undertaking implicit in your request, I feel it necessary to record a formal reply.

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2. Your request for the investigation of the toxicity of Freon 113 has been anticipated. A Memorandum for the Record was released on 24 September 1964 [REDACTED] which dealt with this problem. A copy is attached to this memorandum for your information. Methyl chloroform and similar substances are generators of phosgene gas under appropriate conditions and should be considered potentially as dangerous. We believe that fluid-gating is extremely hazardous under all conditions, that vapors should be processed through absorbers rather than simply vented, and that a continuous analysis should be made of the air in the rooms containing conditions which are conducive to poison gas generation. A copy of an article describing a device for such analysis is also forwarded with this memorandum. [REDACTED] are currently preparing a memorandum which states the Staff's position on the problem. In any event, I do not consider it our responsibility to procure, operate and maintain gas analyzers throughout the center -- not even the first one. All such problems will be referred to procurement and building safety officials.

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3. If Freon 113 liquid is removing the protective wax from the ON, there is little purpose to our confirming it further. On the basis of known solvent behavior, I would suspect it anyway. I would also expect its spotty re-deposition on the film. Because of the probable chemical changes, I would not expect the deposit to be the same kind of wax, nor to provide the same protection. In view of [REDACTED] development of the 10-20-40 Enlarger which operates with a gating fluid in contact with the film, I strongly suspect that the information you require has been carefully catalogued at [REDACTED]. The cleaning and re-waxing of film is also a problem of which [REDACTED] should be well-informed, since they

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clean and re-wax the ON several times during the printing of second-generation positives. The development of a device for achieving this, as an adjunct to a prototype chip printer, requires knowledge and techniques well beyond the current capabilities of the EDL Branch. I would strongly recommend that [REDACTED] be contacted, and an arrangement under AL-14 be concluded which would provide you with the information you require, and assist in the design and/or construction of the necessary devices for cleaning and re-waxing, as well as decontaminating, the film. The EDL Branch might have the capability of undertaking such a design study in 1966, pending the filling-out of our required T/O. As it stands, nothing positively could be achieved at this time, even were your schedule relaxed doubly in our favor.

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4. In your fourth paragraph, a request is contained which is also well beyond our current laboratory capabilities. We cannot yet intensively evaluate photographic materials in terms of acutance, dimensional stability, modulation transfer and resolving power in excess of 228 lines/mm. The laboratory investigation of these properties would employ our entire staff for months to come, had we the equipment and techniques at our disposal. The source best equipped to provide the information you require is the manufacturer, who maintains a large laboratory for the express purposes of evaluating his product. The procurement of such information is a matter of correspondence or literature-searching. In lieu of this, entry to his information could be made through the ubiquitous AL-14, in which we possess an "in" beyond calculating. In view of the scope of this request, a small PAR under AL-14 would certainly seem to be in order. It would provide you with the correct information, from the proper source, in the proper context. Our laboratory's facilities are simply not at the stage of development to adequately prosecute such a program.

5. This memorandum has in effect turned down your request categorically. Whether or not I should apologize for this is difficult to state. I offer you the solace of our services to help you in ascertaining the information you require, in setting up the suggested PAR, or in re-shaping the problem to fit the current EDL capabilities. I suggest we pursue this matter in discussions, and leave the setting-up of such a meeting to you.

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Attachments (2)

Chief, Exploratory Development Laboratory Branch
P&DS

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